

REMARKS

Before examination of this application, the Applicant respectfully requests entry of the amendments recited above.

After entry of the amendment, claims 23-54 will be pending.

The substitution of claims 23-54 for claims 1-22 is intended to broaden the scope of protection sought by the Applicant and is not motivated by any prior art previously cited by any examining authority. This amendment does not dedicate to the public any subject matter described but not claimed. Finally, the Applicant expressly reserves the right to submit further claims to the subject matter described in the above-captioned patent application.

If there are any fees due for entry of this submission that are not otherwise accounted for, the Applicant asks that any such fees be charged to our Deposit Account No. 03-3975, with reference to Order No. 009919/0280860.

Respectfully submitted,

PILLSBURY WINTHROP LLP

By

Jeffrey D. Karceski

Reg. No. 35,914

Tel. No.: (703) 905-2110

Fax No.: (703) 905-2500

JDK/jck

Attachment: Appendix

1600 Tysons Boulevard
McLean, VA 22102
(703) 905-2000

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

The title is changed as follows:

[Direct Drive Assembly for a Go-kart] **DIRECT DRIVE ASSEMBLY AND GO-KART CONTAINING SAME**

IN THE SPECIFICATION:

The specification is changed as follows:

Page 1, add a new heading before the paragraph starting on line 4:

Field of the Invention

Page 1, add a new heading before the paragraph starting on line 9:

Background of the Invention

Page 2, add a new heading before the paragraph starting on line 17:

Summary of the Invention

Page 4, first full paragraph (beginning on line 7):

Installation of the engine-transmission housing in a tubular frame, i.e., in a chassis that is formed as a tubular structure, is effected, for example, by using at least one

bolted clamp, on at least one chassis tube. An alternative installation concept is characterized in that the housing partially fills the space between two parallel chassis tubes, and is clamped between the two chassis tubes by at least one releasable clamp, for example a bolted clamp or a strap clamp. The part of the housing that is located between the two chassis tubes can serve as an additional oil reservoir.[.]

Page 5, add a new heading before the paragraph starting on line 12:

Brief Description of the Drawings

Page 5, drawing description paragraphs (beginning on line 14 of page 5 through line 10, page 6):

Figure 1[:] is a go-kart as viewed from above;

Figure 2[:] is a side view of [this] the go-kart illustrated in Figure 1;

Figure 3[:] is a cross section through the complete engine-transmission unit of [this] the go-kart illustrated in Figure 1, fitted in this example with a reciprocating-piston engine;

Figure 3A[:] is a cross section through a modified engine-transmission unit, fitted in this example with a rotary-piston engine;

Figure 4[:] is a cross section through the engine-transmission unit on the line [A-A] 4-4 in Figure 3 (reciprocating-piston engine);

Figure 4A[:] is a corresponding cross section of the engine-transmission unit on the line [A-A] 4A-4A in Figure 3A (Wankel or rotary-piston engine);

Figure 5[:] is a cross section through a rear-wheel drive shaft mounting in the engine-transmission housing, with a flexible coupling;

Figure 6[:] is a cross section through a rear-wheel drive shaft mounting in the engine-transmission housing, with a friction clutch;

Figure 7[:] is a cross section through another installation of the rear-wheel drive shaft in the engine-transmission housing according to the direct installation concept;

Figure 8[:] is a cross section showing the attachment of the engine-transmission unit to the vehicle frame using bolted clamps;

Figure 9[:] is a cross section showing the attachment of the engine-transmission unit to the vehicle frame using strap clamps;

Figure 10[:] is a cross section through the second stage of the gearing, which is in the form of a two-gear change-speed transmission;

Figure 11[:] is a section through part of a transmission such as that shown in Figure 10, with a gear shift that is mounted on the steering-wheel and used to change gears, as is shown diagrammatically in cross section; and

Figure 12[:] is a cross section through a transmission that incorporates an overload coupling.

Page 6, add a new heading before the paragraph beginning on line 12:

Detailed Description of the Preferred Embodiments

Page 6, first full paragraph (beginning on line 12):

Figure 1 and Figure 2 show a motor vehicle 1, generally referred to as a go-kart, which is used for leisure and sporting activities. This vehicle has a chassis 2 that is a tubular structure, hereinafter referred to as a tubular chassis, on the front of which there are front wheels 4 that can be steered by a steering wheel 3. In addition, in the front part of the vehicle, there are pedals 5a and 5b, usually an accelerator pedal and a brake pedal. In the rear part of the tubular chassis 2 there is a rear-wheel drive shaft 6 that has wheels [6] 7 mounted on its ends and which is driven by an engine-transmission unit 8. The engine-transmission unit 8 is arranged ahead of the rear-wheel drive shaft 6, to one side of the driver's seat, and is secured to the tubular chassis 2. At the engine end, the rear-wheel drive shaft 6 is supported in an engine-transmission housing 10 and at the opposite end in the tubular chassis 2. In principle, it would be possible to use a twin-engine drive system (with engine-transmission units arranged to the left and to the right of the driver's seat); in this case, the rear-wheel drive shaft 6 would be installed on both sides of the vehicle, in the engine-transmission housings.

Page 7, second full paragraph (beginning on line 10):

Figure 1 and Figure 2 also show some important, peripheral engine components, namely a carburetor 22 with its air filter 23, which is connected to the induction system 18 in order to produce the mixture of air and fuel, [a] an exhaust system 24 that [damps] dampens the noise of the exhaust gasses, and a radiator 25 to cool the coolant water that circulates inside the engine unit.

Page 8, first full paragraph (beginning on line 11):

Figure 4 (the version with a reciprocating-piston engine) and figure 4A (the version with a rotary-piston engine) show a more detailed view of the reduction gearing 26; both these drawings show the engine-transmission unit in cross section on the line [A-A] 4-4 or 4A-4A (see Figure 3 or 3A, respectively). From these drawings, it can be seen that the driving gear wheel 27 of the gearing 26, i.e., the first stage I of the gearing is mounted – preferably on a needle roller bearing 27a – on the crank shaft or engine shaft 17, 17a and connected to this through a clutch 28, preferably a centrifugal clutch, whereby engine torque is introduced into the first stage I of the gearing. This clutch could be eliminated and the driving gear wheel could be connected directly with the crank shaft or engine shaft 17, 17a, although this would greatly reduce riding comfort.

Pages 10-11, carryover paragraph (beginning on line 23 of page 10):

In order to make it possible to change the reduction ratio when the vehicle is in motion, the second stage II of the gearing can also be configured as a multi-gear change-speed transmission. As an example, Figure 10 shows a two-gear, change-speed transmission. The second stage II of the gearing then incorporates two pairs of

gear wheels 30a/33a and 30b/33b with diameters that form different ratios. The rear-wheel drive shaft 6 is once again installed indirectly by way of a hollow shaft 46 that, in this embodiment, is an independent part that is materially separated from the driven gear wheels 33a, 33b. It is preferred that the driven gear wheels 33a, 33b be mounted on the hollow shaft 46 on needle roller bearings 47 so as to be able to rotate. Since the mechanical load on the bearing points is relatively small, it is also possible to dispense with the needle roller bearings 47. Between the driven gear wheels 33a, 33b there is a gearshift sleeve 48 that is mounted on the hollow shaft 46 and can move axially on the splines 46a; this sleeve can be displaced by a selector fork 49a that can be adjusted from outside the housing by a selector rod 49 (see the double arrow, Figure 10, with the gear positions S0, S1, and S2).

Three positions are possible in the embodiment shown[:]. [•] In the neutral position S0, the gearshift sleeve 48 is centered exactly between the driven gear wheels 33a and 33b; there is no non-positive connection between the driven gear wheels 33a, 33b and the rear-wheel drive shaft 6, i.e., no power is transmitted. [•] In 1st gear (gear position S1), the gearshift sleeve 48 is pressed against the driven gear wheel 33a by the selector fork 49a; it enters into detent with this, and thereby forms a non-positive connection to the hollow shaft 46 or the rear-wheel drive shaft 6. [•] In 2nd gear (gear position S2), the gearshift sleeve 48 is pressed against the driven gear wheel 33b by the selector fork 49a; it enters into detent with this and thereby forms a non-positive connection to the hollow shaft 46 or the rear-wheel drive shaft 6, respectively. The reduction ratio is slightly less than in 1st gear.

Page 12, second full paragraph (beginning at line 12):

The crank shaft 17 or engine shaft 17a still provides enough space for a starter ring gear 55 that is driven by a starter motor 56 through an interposed starter lay shaft gearing_57 (see Figures 4 and 4A). The starter ring gear 55, the driving pinion 54 for

the balance weight, and the clutch 28 can be connected to each other on a tapered section 58 on the crank shaft 17. This permits particularly rapid installation and removal.

Page 12, between lines 16 and 17, please add a blank line.

Pages 12-13, carryover paragraph (beginning on line 29 of page 12):

Cables, such as [or] Bowden cables 61, that are secured to the levers 62 or 63 operate the selector rod 49. In particular, when shifting from 1st gear (position S1) to 2nd gear (position S2) the lever 63 is moved to the left, as indicated in Figure 11, when a spring 64 that is associated with the selector rod 49 is compressed and thereby placed under tension. In order that the ignition can be interrupted, a contact screw 65a is installed in the plate 65 that is connected to the selector rod 49, and during the shifting process this comes into contact with the adjuster screw 63a on the lever 63 as it moves to the left, just before it comes to rest against a stop 32a. This connects the contact screw 65a to ground, and the ignition is interrupted. This interruption is very brief because the plate 65 then moves further to the left during the shifting process, which means that the contact screw 65a moves out of contact with the adjuster screw 63a.

Page 13, first full paragraph (beginning on line 11):

For reasons of safety, both hands should remain on the steering wheel 3, even when shifting gears. In order to ensure that this is done, a preferred method for switching gears by means of a shift lever 66 that is mounted on the steering wheel 3 is proposed, said shift lever 66 being connected to the selector rod 49 by cables, such as [or] Bowden cables 61. The particular gear wheels 33a, 33b for 1st or 2nd gear, respectively, can be connected non-positively to the hollow shaft 46 or the rear-wheel drive shaft 6 as desired by means of the selector fork 49a and the gear-shift sleeve 48.

Pages 13-14, carryover paragraph (beginning on line 29 of page 13):

It has been found to be an advantage, particularly in the embodiment with a multi-gear gearing, to incorporate an overload coupling in the drive train. During the gear-shift process, the centrifugal clutch 28 (see Figure 4) usually remains connected—which is to say that it is usually connected when the engine is running fast. Torque peaks can occur in the drive train because of the sudden and abrupt change in engine speed that is brought about by shifting from one gear to another. Such torque peaks impose a severe strain on all the mechanisms and also downgrade the vehicle's performance, namely, its traction. As has already been shown in Figure 5 and Figure 6, this overload coupling can be a flexible coupling 36 or a friction clutch 37 that is incorporated in the rear-wheel drive shaft 6, outside the engine-transmission housing 10. In principle, however, the overload coupling can be accommodated within the engine-transmission housing 10, for example, if it connects the driven gear wheel 33 and the hollow shaft 33a to each other, providing that the driven gear wheel 33 and the hollow shaft 33a are two elements that are separate from each other (this [eventuality] embodiment is not shown herein).

Page 14, add the following new paragraph at the end of the page:

The foregoing description is meant to be illustrative of the scope of the present invention and is not meant to be limited solely to the embodiments shown and described. To the contrary, those skilled in the art will readily recognize that variations of the embodiments described may be substituted without departing from the scope of the present invention.

IN THE CLAIMS:

Claims 1-22 are canceled.

Claims 23-54 are added as new claims.

IN THE ABSTRACT:

The abstract is changed as follows:

A go-kart [Go-kart] drive assembly with an internal combustion engine in the form of a reciprocating-piston or rotary-piston engine as a power source[, and with] is described. The drive assembly includes a spur-gear reduction gearing between the internal combustion engine and a rear-wheel drive shaft of the go-kart[, the]. The spur-gear reduction gearing [with] and the crank shaft (17) of the reciprocating engine or the engine shaft of the rotary-piston engine (17a)[, respectively, being] are accommodated in a common housing (10) that is preferably closed[, the]. The space or spaces (a, b) between the shafts of the spur-gear reduction gearing (27, 29; 30, 33) [being] is fixed in [said] the housing (10) so as to be invariable[, the]. The driving gear wheel (27) of the gearing (26) [being] is mounted on the crank shaft (17) or the engine shaft (17a) and the driven gear wheel (33) of the gearing (26) [being] is mounted on the rear-wheel drive shaft (6).

- END OF APPENDIX -